

WHAT IS CLAIMED IS:

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1. A data recording device, comprising:
  - a recording unit that records data on a recording medium, said recording medium including a plurality of recorded regions each having data recorded by the recording unit and a plurality of unrecorded regions without any data recorded; and
    - a recording state determination unit that stores recording state data for distinguishing the recorded regions from the unrecorded regions;
- wherein
  - the recording unit includes a mark recording unit configured to record a mark in one of the unrecorded regions preceding an object region to which the recording unit is to record data, said mark enabling reading of the object region; and
    - the recording state determination unit identifies said marked region as one of the unrecorded regions.

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2. The data recording device as claimed in  
claim 1, wherein the mark includes dummy data used for  
generating a synchronization signal when reading data  
on the recording medium.

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3. The data recording device as claimed in  
10 claim 1, wherein the mark includes one ECC block of  
dummy data when the recording medium is in compliance  
with a DVD+RW disk standard.

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4. The data recording device as claimed in  
claim 1, wherein the recording state determination unit  
stores the recording state data for each minimum  
20 recording region of the recording medium to determine a  
recording state of each of the minimum recording  
regions.

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5. The data recording device as claimed in  
claim 1, wherein the recording state determination unit  
distinguishes the recorded region from the unrecorded  
region based on a bitmap including a plurality of one-  
5 bit recording state flags.

10 6. The data recording device as claimed in  
claim 5, further comprising a recording state flag  
storing unit configured to store the recording state  
flags.

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7. The data recording device as claimed in  
claim 5, further comprising a recording state flag  
recording unit configured to record the recording state  
flags to a recording state flag recording region in the  
recording medium.  
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8. The data recording device as claimed in  
claim 7, wherein the recording state flag recording  
region is allocated in a Formatting Disk Control Block  
(FDCB) in a lead-in area of the recording medium, when  
5 the recording medium is in compliance with a DVD+RW  
disk standard.

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9. A method for recording data on a  
recording medium including a plurality of recorded  
regions each having data recorded and a plurality of  
unrecorded regions without any data recorded, the  
15 method comprising the steps of:

storing recording state data for  
distinguishing the recorded regions from the unrecorded  
regions;

recording a mark in one of the unrecorded  
20 regions preceding an object region to which data are to  
be recorded, said mark enabling reading of the object  
region; and

identifying said marked region as one of the  
unrecorded regions.

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10. A program executable by a computer for recording data on a recording medium including a plurality of recorded regions each having data recorded and a plurality of unrecorded regions without any data recorded, the program comprising the steps of:

5               storing recording state data for distinguishing the recorded regions from the unrecorded regions;

10              recording a mark in one of the unrecorded regions preceding an object region to which data are to be recorded, said mark enabling reading of the object region; and

15              identifying said marked region as one of the unrecorded regions.

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11. A storage medium that stores a program executable by a computer for recording data on a recording medium including a plurality of recorded regions each having data recorded and a plurality of unrecorded regions without any data recorded, the program comprising the steps of:

25              storing recording state data for

distinguishing the recorded regions from the unrecorded regions;

recording a mark in one of the unrecorded regions preceding an object region to which data are to  
5 be recorded, said mark enabling reading of the object region; and

identifying said marked region as one of the unrecorded regions.

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12. A data recording system comprising:

a host computer; and  
15 a data recording device,  
wherein

the data recording device comprises:

a recording unit that records data on a recording medium, said recording medium including a plurality of recorded regions each having data recorded by the recording unit and a plurality of unrecorded regions without any data recorded; and  
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a recording state determination unit that stores recording state data for distinguishing the recorded regions from the unrecorded regions;  
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wherein

the recording unit includes a mark recording unit configured to record a mark in one of the unrecorded regions preceding an object region to which 5 the recording unit is to record data, said mark enabling reading of the object region; and

the recording state determination unit identifies said marked region as one of the unrecorded regions.